

## IMPROVED SENSOR DEVICE WITH HEATED NANOSTRUCTURE

### ABSTRACT OF THE DISCLOSURE

5 A nanostructure sensing device includes a substrate, a nanotube disposed over the substrate, and at least two conductive elements electrically connected to the nanotube. A electric current on the order of about 10  $\mu$ A, or greater, is passed through the conductive elements and the nanotube. As a result, the nanotube heats up relative to the substrate. In the alternative, some other method may be used to heat the nanotube. When operated as a sensor with a heated nanotube, the sensor's response and/or recovery time may be markedly improved.